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ABSTRACT

During the summer of 1983, 77 community college students enrolled in English composition courses were administered the Nelson Denny Test during the first week of the summer session and just prior to final examinations to: determine reading ability and grade equivalences in reading; ascertain if there were relationships between academic achievement and/or reading ability; determine if males, females, or Hispanics differed as a group, and if so, identify those differences; and determine if there was a relationship between reading and writing. The Nelson Denny Test, Form D determined reading ability and provided scores in vocabulary, comprehension, and rate. Grade equivalence was provided by the test's publisher. Students' grade in the course determined academic achievement. Students were placed in writing classes according to the College's writing sample examination, successful completion of the previous writing course, and other means (e.g., transfer student from other college). Findings included: students who completed the courses showed gains of .8 grade levels in the summer session; males had a higher equivalence than females, however, the groups finished at the same equivalence level; Hispanic students started reading at the 11.8 grade level, and ended at the 12.7, almost at the point at which non-Hispanics began. (NQA)

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ACADEMIC ACHIEVEMENT, READING, AND WRITING:

HISPANICS, MALES, AND FEMALES

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ACADEMIC ACHIEVEMENT AND READING AND WRITING ABILITY: HISPANICS, MALES, AND FEMALES

INTRODUCTION

Reading is a significant factor in academic achievement. Persons who read well have a better chance of succeeding in courses in which there is a significant amount of reading. While reading assignments may vary from instructor to instructor, it is generally recognized that courses in college level classes require reading ability as a prerequisite for academic success.

Courses in the Community Colleges for the most part do not have reading prerequisites. /1/ While it may be assumed that persons register for courses in which they can perform well, students, for the most part "schedule themselves" in courses that they need for a specific purpose without taking into consideration skills in reading. A 1980 study concluded that reading tests were not required as a prerequisite for enrolling in social sciences courses in Arizona Community Colleges. /2/ Prerequisites for enrolling in writing courses at colleges are now in existence in the form of a placement examination. Academic competencies have become such an issue in California that effective July 1, 1983, before a California Community College issues the Associate of Arts/Science degree, competency in reading, writing, and mathematics must be demonstrated. The level of the competency was not stated in the guidelines.

There has been a recognized relationship between reading and writing. For the most part, it is common practice to accept the axiom that students who write well also read well; however, the reverse is not commonly accepted, i.e., those who read poorly write well.

THE PROBLEM

The objective of the study was to determine reading ability, grade equivalences in reading, and to ascertain if there were relationships between academic achievement and/or reading ability. Secondly, determine if males, females, or Hispanics differ as a group; if so, identify those differences. Thirdly, determine if there was a relationship between reading and writing. Reading ability was determined by using the Nelson Denny Test, Form D . /3/ The test provides scores in vocabulary, comprehension, and rate. Grade equivalence is provided by the publisher of the test. Academic achievement was determined by the grade obtained by the student in the English composition course. Hispanic students were those students who had a Spanish-surname.

Students were placed in the writing classes according to the following. 1) College's writing sample examination, 2) Successful completion of the previous writing course with a grade of "C" or better, 3) Other means, e.g., transfer student from other college.

The Nelson Denny Reading Test is a thirty minute examination with three parts: Vocabulary (10 minutes), Comprehension (20 minutes), and Rate (included in the twenty minutes of the comprehension portion). The vocabulary test is given one point value while the comprehension value is two points.

The purpose of the research was to determine the reading ability of summer session students who complete English composition courses. Specifically, the study sought answers to questions such as, What are the reading scores of those that complete the college level transfer course as well as those who complete the course just below it? Is there a relationship between reading ability and achievement? Do groups differ in scores and relationships? If so, how? What are the reading scores of students in English courses that are transferable as college level composition and those that are just below it? Do the scores differ? If so, how?

The study method was used. The groups selected for the study were accepted as they were, and no generalization was extended beyond the groups studied. Data obtained from the reading test was classified as follows:

First Group: All Students

Second Group: Males and Females

Third Group: Hispanics

Fourth Group: Level of Writing Skills
College Level Course

-Just Below College Level Course

Fifth Group: Method of Placement
-Placement by Writing Sample at the College
-Previous Course Taken
-Other

Sixth Group: Achievement in Writing Course

The mean and the standard deviation was completed for each of the reading scores and grade.

Significance of the correlations at the .05 and .01 statistical level was used to determine if the finding in question could be ascertained with 5% (.05 level) or 1% (.01 level) margin of error. F ratios were used to determine the level of significance of the mean differences of each of the groups. The population of the study were students who completed English composition classes in a public California Community College in the summer of 1983. All the course completers took the thirty minute examination.

The Nelson Denny was administered during the first week of the Summer Session and just prior to final examinations.

REVIEW OF THE LITERATURE

Dumont et al. indicated that students begin and end with positive attitudes towards academic experiences and are able to perform well on instructor examinations after the completion of basic skills program. Overall, postprogram gains were made by students but when the positive relationships between initial ability and performance gains are evaluated, the positive relationships are not as strong as previously indicated. Further, those relationships are weakened and in the case of reading the relationship becomes negative. The reading program was reported as being less effective in the Community College than in the University. /4/

Charry conducted a study of academic variables that differentiated between successful students, i.e., those who graduated, from students who were placed on probation. Successful students completed a remedial course at least one semester earlier than the student on probation, early enrollment in difficult courses was significant but low, there were no curriculum choice differences, and for liberal arts students, "early completion of reading remediation was correlated significantly with academic success." /5/

Basonic investigated developmental students academic performance as well as the persistence patterns of those students over a two year period, 1977-1979. Her study showed that only "28% of the 164 students completed ...reading, English, and mathematics" and only 43% of the 28% later completed a college level mathematics and English course. The best predictor for completion of the developmental sequence of courses was the grade point average obtained in the first semester. Finally, Basonic indicates that by spring 1981, only 4 of the 164 students had attained a degree. /6/

The academic records of 284 students were examined over a two year period by Miller. He was interested in determining the differences between "high-risk" students who completed a developmental course sequence in contrast with those that did not participate in the program. Scores in reading, mathematics, and English as well as a questionnaire that determined the students' habits and attitudes were used for the establishment of the developmental group. Miller found that the 82 developmental participants of the program achieved higher rates of academic success, credit hours attempted and completed, and academic persistence. /7/

Dettloff attempted to find those variables that could predict the success of Community College students who enroll in biology courses. She used many instruments and multiple regression analysis; background characteristics and reading-mathematics ability accounted for 22% variance in achievement. /8/

As microcomputers move into the educational scene, the use of the computers in remedial education is being explored. A Community College in California with a

significant minority population investigated the impact of microcomputers as a supplement for regular instruction. Most of the students were reading below the seventh grade level. Koster found that those students who used the microcomputers as a supplement to the regular program made greater gains in reading skills and had a lower termination rate than those students who were not enrolled in the supplementary program; however, there was a higher attrition rate for those students enrolled in the microcomputer group. /9/

A study of the performance of day and evening students by Los Angeles City College revealed that the highest correlation was obtained in the post-test vocabulary scores, but no differences were found between the day or evening students. /10/

Enrollment of students in remedial courses was explored in a study of Bronx Community College's entering class in 1980. More students enrolled in remedial English courses, includes reading, than was required, i.e., 62% placed but 70% enrolled; however, this does not apply to mathematics, here the reverse occurred, i.e., 71% placed but 51% enrolled. Another research finding was the impact of open admissions policy at Bronx on underprepared students. The latter declined significantly in English. /11/

Developmental students averaged 18% higher point average, 34% longer enrollment, and 32% better graduation rate, and provided a 60.4% "net return". Students were satisfied with the program and the course work was beneficial outside of the college. /12/

Reading scores improved significantly for students who participated in a remedial English course from the beginning to the end of the course. /13/

A statewide survey of developmental students indicated that these students tended to obtain lower grades, and enroll in fewer college level English courses. /14/

Reading achievement of students enrolled in a five month course for five hours per week registered the following achievements: word recognition improved 1.2 years, reading comprehension 1.7, word attack skills 1.2, and spelling 1.4. Mathematics gain of .5 years was low compared with the reading achievement growth. /15/

The Reading Progress Scale was used by Lansing Community College to determine if the instrument could be used for measuring student persistence in a particular course and as a predictor of course grade. The instrument was given to 4,714 students in 46 different courses. The findings indicated that the instrument was good predictor only in English composition. Correlations were obtained only in 17 of the 46 courses while in the second study only 13 correlations were found. Jones and Smolen suggest that the Reading Progress

Scale and grade are not consistently related and that a single variable cannot be used for predictive purposes. /16/

A Glendale Community College report indicated that greater persistence among developmental students was significant for the first semester only, they had higher cumulative grade point averages, but did not have greater number of units completed over the three year period. /17/

A Los Angeles City College study of high school seniors who took the SAT test in 1977 revealed that the group was 76% minority and comprised 74% of the students of the college, 16% were in the nationwide group. Median annual parental income was $8,000 for the students at the Community College while for the national group it was $17,600. Test scores means and standard deviations for the SAT verbal, mathematics, and verbal sub-scores in reading comprehension and vocabulary, and the Test for Standard Written English indicated that the Community College applicants ranked below the 20th percentile in each of the tests. Further, two-year educational goals were indicated by the Community College applicants than the national group; however, they were similar in the percentage who indicated a bachelor's degree as an educational goal. /18/

While it is difficult to assess the type of reading and writing problems that students who start at a four year college may have in the junior year. A follow up study of students who transfer to four-year institutions is usually conducted to "assess" the transferability preparation of students at the Community College. Essex County College surveyed 413 students in 1974 to ascertained the preparation of students. Almost 2/3 of the students , i.e., 64% indicated that the course work at the transfer institution was harder than the Community College, 21% had difficulty in reading, 28% in writing, and 29% in mathematics. Further, mean grade point averages of transfer students declined by .65 points. /19/

Carter reported the outcome of a Personalized Approach to College (PACE) program designed for students who scored at the bottom quartile of the entering freshman class. At second semester, 68% of the students showed test score increases in English, 55% in mathematics, 71% in reading, and the drop out rate for the PACE students was 32%. /20/

A profile of high school seniors in 1973 revealed, among other things, that students who graduated from the Los Angeles City Schools placed the graduate at the 44th percentile on national norms in reading and a 47% chance of completing an academic course of study. More than one half of the seniors surveyed, i.e., 63% had a chance in enrolling in a Community College or a four-year college. The study was limited to high school graduates as well as those who returned a questionnaire. /21/

A Community College in Washington reported that 40% of 485 students tested in 30

different classes were experiencing difficulty in reading their required textbooks, 67% of the writing samples were not at the transfer level, and they placed at the 45th percentile in mathematics. /22/

Kistulentz compared students who were enrolled in two types of reading improvement courses. One course was directly related to textbooks used by the students, i.e., vocabulary and comprehension improvement exercises were derived from textbooks, and a traditional reading improving course students comprised the second group. He reported that both groups made significant gains in reading scores from pretest to posttest on the Nelson Denny . No significant differences were found in grade-point averages, reading improvement scores, or achievement in writing or mathematics; however, a significance was found in science achievement. /23/

Farrell investigated high-risk students enrolled in one semester course designed for academically high risk students as compared to those who entered the program in the traditional manner. He concluded that students who spent the 19 hours per week in class and earned only 11-12 units did not earn higher grades or complete more credit hours. /24/

Project STIR, an interdisciplinary block-project, for students who needed remedial education at a Community College in New York indicated that the program did not reduce attrition, did not improve achievement motivation or "allied ego functions," or improved writing or math ability. It did improve reading competency . /25/

Project 60 students at a Community College in Massachussets who were admitted to the college with a 1.7 high school average grade and with below grade level scores in reading, mathematics, and composition, participated in a special summer session of skill building, motivational aids, and counseling before going on to college courses. The findings indicate that Project 60 students were not too different from the control group who were regular students at the college. Further, at the end of the second year, 45% of the control had dropped in contrast to 55% of Project 60 students, 39% of the control graduated but only 15% of Project 60's; further, 30% of Project 60 students were still in attendance and intended to graduate. Academic achievement and persistence of both groups showed no relationship with test scores or high school records. /26/

Byrd, et al. conducted a study to find the differences between high school graduates and G.E.D. students enrolled at a Community College in Florida. He found no significant differences in reading scores between as well as the grade point averages on courses in English and mathematics. He concluded that both groups needed skill reinforcement at the same level. /27/

Students who are not prepared for college level courses at Thomas Nelson

Community College are required to enrolled in developmental courses. Bragg studied students who were enrolled in developmental courses with respect to grade point average and how these students competed with other students in the regular mathematics and English courses. Five out of seven groups performed at an acceptable level. Students who scored low in the Comparative Guidance and Placement test in both verbal skills and reading seemed to perform unsatisfactorily after completing developmental studies. Only in the beginning English course did the developmental group performed as well as the regular students. The mean grade point average was lower for the developmental students in five beginning courses. The number of hours completed was a function of the grade point average. /28/

The Davis Reading Test was used among other instruments to predict first quarter freshman grade point average at a black, urban community college. Johns also used the College Qualification Tests as well as a Survey of Study Habits and Attitudes. Performance prediction was greater for male students and predictive validity was limited using the SSHA, adequate for male students using the CQT and Davis Reading Test, and not significantly increased when the Davis and SSHA variables were added to the CQT variables in multiple correlations. /29/

The publishers suggest the critical analysis of each of the scores to determine the student's strengths and weakness in reading. Differences in scores point to an analysis of potential problems in reading rather than a specific one.

Summer Session students are unique in various respects. First, the educational experience is compacted into six weeks of instruction, i.e., one third of the usual time of eighteen weeks in the regular semester. Secondly, the reasons for attending the summer session are closely related to transfer functions. In an unpublished report, Rivera (1981) reported that summer school students enrolled in the social sciences were mostly high school graduates, young, i.e., 24 years average, and had completed an average of 34 semester units. Most were returning students. The most stated reason for enrolling in a social science course was that the course was required for a major (22%), or for the Associate of Arts degree (19%). Transfer requirements was indicated by 13% of the students; hence, students who enroll in summer session classes in the social sciences are for the most part very definite about their educational goal. It is highly reasonable to assume that this translates to a high motivation for success in their course work. /30/

As further indication that summer school students enrolled in social sciences are special students who attend college for a specific purpose , Rivera (1981) found that 60% of those enrolled in the summer of 1981 were not returning to the Community College in the Fall 1981 semester because they had completed a degree, a two year transfer program, or were planning or transferred to a four-five year college. /31/

F I N D I N G S

GROUP

During the Summer of 1983 all students enrolled in English courses were given the Nelson Denny Test . The total population was 77 students enrolled in English composition courses. Two of the courses were college level and transferable to senior colleges while the other two represented courses just below the college level course. The population under study was reduced after all incomplete entries were eliminated from the analysis. An entry was considered "incomplete" if any of the items under study was missing. Withdrawals were not included in the analysis.

Students who completed the English composition courses showed gains of .8 grade levels in the six week summer session. The group began the classes reading at the 12.2 but by the end of the summer they had gained the 13.0 grade level. The gains obtained were significant at the .04 level in vocabulary, .01 in comprehension and the total score, and .02 in the grade level equivalence. Table 1 provides the statistics of the group.

Table 1
Reading Ability and Achievement

	Begin Means	After Means	t Value	Sig	Begin Corr	After Corr
Vocabulary	33.1 16.6	38.7 18.5	-1.99	.04	.48*	.70*
Comprehension	35.7 11.3	40.7 12.7	-2.57	.01	.48*	.68*
Total (V+C)	68.8 25.7	79.3 28.2	-2.4	.01	.52*	.82*
Grade Equivalency	12.2 2.47	13 2.26	-2.23	.02	.52*	.87*
Grade	2.9 .848					

* .01 Level of Significance

NOTE: The Standard Deviation is noted below the mean.

There were correlations in vocabulary, comprehension, total, and the grade equivalence prior and after the course at the .01 level of significance.. The correlations, as it would be expected, were considerable higher at the end of the course than those at the beginning.

MALES AND FEMALES

Of the 77 students, 40 were females and 37 were males. Table 2 shows the males and females characteristics at the beginning of the summer session and at the end.

Differences in scores between males and females at the beginning and after the course are given in Table 3. The female group obtained significant differences ,i.e. comprehension .03, and the total of .05; however, when differences between males and females are compared, these differences cannot be ascertained with a degree of certainty, i.e., .01 and .05 levels were not reached.

GRADE EQUIVALENCE

Grade equivalence for the scores is provided by the Nelson Denny based on a standardized sample of college students. English composition students as indicated in Table 2, read above the 12th grade level before the course. Males had a higher equivalence than the females; however, the groups finished at the same equivalence level.

CORRELATIONS

Correlations were computed between the scores and grade to determine if a relationship existed. All correlations, with the exception of vocabulary in the males, were at the .01 level of significance, the former correlation was significant at the .05 level. Table 4 indicates the correlations for both groups.

Table 2
Males and Females Characteristics

MALES

	Beginn Mean	After Mean	t Value	Sign
Vocabulary	33.7	40.05	-1.51	.13
	16.9	19.1		
Comprehension	36.6	40.05	-1.31	.19
	10.7	11.1		
Total Score	70.3	80.1	-1.51	.14
	25	28.6		
Grade Equivalency	12.37	13.07		
	2.3	2.3		
Grade in Course	3.02			
	.83			

N=37

FEMALES

	Beginn Mean	After Mean	t Value	Sign
Vocabulary	32.6	37.6	-1.29	.20
	16.5	18.1		
Comprehension	34.9	41.3	-2.25	.03
	11.9	13.7		
Total Score	67.5	78.9	-1.86	.05
	26.6	28.2		
Grade Equivalency	12.08	13.07	-1.82	.07
	2.5	2.3		

N=40

NOTE: The Standard deviations are listed below the mean
Hispanic students are included in the gender analysis

Table 3
Beginning and After Differences: Males and Females

	BEFORE		AFTER	
	t value	Significance	t value	Significance
Vocabulary	.28	.77	.57	.57
Comprehension	.68	.49	-.45	.66
Total Score	.48	.63	.13	.89
Grade Equivalency	.53	.59	-.004	.99

Table 4
Correlation of Reading Scores and Academic Achievement

	Males		Females	
	Before	After	Before	After
Vocabulary	.41**	.44*	.55*	.61*
Comprehension	.50*	.65*	.45*	.44*
Total	.49*	.55*	.55*	.61*
Grade Equivalency	.56*	.56*	.48*	.54*

* .01 Level of Significance
**.05 Level of Significance

HISPANICS

Non Hispanic students began the English composition courses reading at the 12.5 grade level and ended at the 13.2 level. The gains made in vocabulary, comprehension, and total were significant enough to look at the changes as real changes. The vocabulary significance was .06, comprehension .08, total score .049, and the grade equivalence .058.

Hispanic students started reading at the 11.8 grade level, and ended at the 12.7 almost at the point in which the non Hispanic began. Gains made by the Hispanic group cannot be ascertained as real changes. The statistical findings indicate that in some instances, chance may account for the change, e.g., the statistical level of significance for vocabulary was .43, comprehension .05, total score .18, and the grade equivalence .25.

Differences between the groups before the course is not significant at a level that can assure us of making a conclusion that the changes observed were not due to change, e.g., in vocabulary the level was .31, comprehension .77, total score .60, and the grade equivalence, .40.

Table 5
Hispanic Characteristics

	Non Hispanic		Hispanic	
	Befo	After	Befo	After
Vocabulary	34.1	40.3	30.9	35.3
	16.5	17.21	16.8	21
Comprehension	36.3	40.4	34.5	41.3
	11.5	12.9	10.9	12.6
Total Score	70.4	80.5	65.5	76.6
	25.6	26.8	26.1	31.5
Grade Equiv.	12.5	13.2	11.8	12.7
	2.4	2.1	2.5	2.5
N	53		24	

NOTE: Standard Deviations are indicated below the mean

CORRELATIONS

Correlations for the Hispanic group were higher and significant at the .01 level of significance, both before and after the course completion. Table 6 indicates correlations of Hispanic and Non-Hispanic groups.

Table 6
Correlations: Hispanics and Non Hispanics

	Non Hispanic		Hispanic	
	Before	After	Before	After
Vocabulary	.42*	.45*	.64*	.70*
Comprehension	.4*	.51	.72*	.65*
Total Score	.45*	.53*	.71*	.73*
Grade Equivalency	.49*	.55*	.58*	.54*

* .01 Level of Significance

PLACEMENT OF STUDENTS

Students qualify for the writing courses through various means: 1) Placement by instructors who read an essay examination twice, 2) Completed the previous course with a grade of "C" or better, and 3) Other, e.g., transfer from another institution. Table 7 shows the characteristics of the three groups. It should be noted that the groups were not divided according to transfer and non-transfer but only as to how they were placed in the English class.

CORRELATIONS

Correlations for the group that took the English Placement Examination at the school are mostly in the .40's before and after taking the course while for students who took the previous course is in for the most part in the .30's. The group that qualified for the course under "other" had high correlations; however, the group is small and not conducive to conclusive statements. Table 8 indicates the correlations for the three groups before and after the course.

Table 7
Method of Placement in English Composition Course

	Placement Exam		Prev.Course		Other	
	Bef Mean	After Mean	Bef Mean	After Mean	Bef Mean	After Mean
Vocabulary	37.5	44.3	22.7	25.7	32.1	37.8
	17.3	18.3	12	11.9	10.5	18.1
Comprehension	38.2	45	27.7	31.6	34.5	37
	10.8	12	8.4	9.2	10.7	11.9
Total Score	76.8	89.3	50.1	57.2	66.6	75.2
	25.8	27	17.3	16.8	19.6	27.8
Grade Equiv.	12.9	13.8	10.3	11.4	12.3	12.9
	2.18	1.8	2.4	2.1	1.8	2.5
Grade	3.12		2.5		2.8	
	.78		.83		.99	
N	49		20		8	

NOTE: Standard deviation is noted below the mean

Table 8
Correlations: Method of Placement in Classes

	Placement Exam		Previous Course		Other	
	Before	After	Before	After	Before	After
Vocabulary	.41*	.44*	.36	.34	.75**	.83*
Comprehension	.43*	.43*	.30	.27	.41	.84*
Total Score	.45*	.48	.40	.39	.62	.91*
Grade Equivalency	.45*	.45*	.36	.33	.68	.84

* .01 Level of Significance
** .05 Level of Significance

It should be noted that the group with no correlations at the significant level of .01 or .05 was the group that placed by taking the previous course.

GRADES AND SCORES PROFILE

Scores and the rates of growth of students during the six week summer session provides another view of how reading affects student achievement. Table 9 provides a profile of scores of students who obtained different grades in the English composition courses.

Table 9
Reading achievement and Grades Earned

	A		B		C		D	
Vocabulary	44.2	52.4	32.4	38	24.8	28.1	16	21.5
	18.1	18.3	14.1	15.9	11.8	13.7	5.6	2.12
Comprehension	42.7	48.3	36	42.7	30	32.3	23	28
	10.2	11.2	10.7	10.1	9.4	11.8	1.4	5.6
Total Score	86.9	100.7	68.4	80.7	54.8	60.4	39	49.5
	25.1	25.6	22.6	23.1	19.2	21.8	7	3.5
Grade Equiv.	13.8	14.5	12.4	13.4	10.9	11.5	8.6	10.4
	1.3	.88	2.4	1.7	2.4	2.6	1.2	.56
N	23		28		24		2	

The "A" student begins ahead and finishes ahead, i.e., 13.8 to 14.5; "B" students grow one grade level in six weeks, while the "C" students grow only .6 grade levels but do not reach even the 12th grade level upon completion. The two students who received a "C" grew 1.8 grade levels in the summer session but at completion they are still 1.6 grade levels below the 12th grade. The standard deviations also tell another story in grade placement, i.e., those students who obtained an "A" become similar, from 1.3 to .88 standard deviation. The "B" group also becomes more homogeneous, from 2.4 to 1.7 standard deviation. The "C" group, on the other hand, becomes more diverse. Students were not separated according to type of course taken, i.e., remedial or transfer.

TRANSFER AND REMEDIAL

Transfer and remedial student statistics are provided in Table 10 and those of the remedial in Table 11.

Transfer students began with a high score and ended with a high score in vocabulary and in comprehension, i.e., 39.1 and 44.9 in vocabulary and 40.3 and 43.1 in comprehension.

Table 10
College Level English Transfer Course

	Prior	After	t value	Sig	Corr Before	Corr After
Vocabulary	39.1 15.4	44.9 18.6	-1.36	.17	.43*	.51*
Comprehension	40.3 10.6	43.1 12.4	- .95	.34	.32	.51*
Total Score	79.5 23.7	88.0 27.2	-1.29	.20	.43*	.57*
Grade Equivalency	13.2 1.6	13.7 1.6	-1.12	.26	.41*	.57*
Grade	3.1 .8					

N=32

NOTE: Standard deviation is noted below the mean

* .01 level of significance
**.05 level of significance

Remedial students began low in comparison with the transfer group and ended below the score that the transfer had begun, i.e., 28.8 and 34.4 in vocabulary and 32.4 and 39 in comprehension. Comprehension gains were largest in the remedial group.

Table 11
Remedial Course

	Before	After	t value	Level	Before	After
Vocabulary	28.8 16.2	34.4 17.4	-1.96	.05	.46*	.49*
Comprehension	32.4 24.7	39.0 27.6	-2.65	.009	.52*	.49*
Total Score	61.3 24.7	73.4 27.6	-2.17	.03	.53*	.51*
Grade Equivalency	11.4 2.6	12.5 2.5	-2.05	.04	.53*	.51*
Grade	2.7 .85					

N=45

NOTE: Standard deviation is noted below the mean

*.01 level of significance
**.05 level of significance

Transfer student gains were not significant at the .01 or .05 level; however, the remedial group had significance levels at the .05 in vocabulary .009 in comprehension, and .03 in the total score. Both groups were similar in their deviations from the average grade, i.e., standard deviations were .8 for transfer and .85 for the remedial. Higher grades were obtained by the transfer students, i.e., 3.1 (B) while remedial students obtained a 2.7 (C+). Although there are some limitations in using the grade equivalence statistic due to the lack of a representative sample in the development of the equivalencies, it should be noted that the remedial group "grew" 1.1 in contrast to .5 in the transfer group. Reading scores of transfer students had correlations at the .01 level of significance both at the beginning and end of the course with the exception of comprehension at the beginning of the course. Further, the transfer correlations grew more than the remedial group, i.e., .43 to .51 in vocabulary, .32 (not significant at the .01 or .05) to .51 in comprehension, .43 to .57 in

the total score, and .41 to .57 in the grade equivalence. Remedial students, on the other hand, although the changes between prior and after were stastically significant, declined in vocabulary, comprehension, and the total score, i.e., .46 to .49 in vocabulary, .52 to .49 in comprehension, and .53 to .51 in grade equivalence. The remedial group only grew .1 in the total score, i.e., 153 to .54.

Table 12
Differences Between Transfer and Remedial

	t Value	Significance Level
B E F O R E		
Vocabulary	2.80	.0065
Comprehension	3.22	.0019
Total Score	3.26	.0017
Grade Equivalence	3.71	.0004
A F T E R		
Vocabulary	2.51	.0145
Comprehension	1.41	.1619
Total Score	2.27	.026
Grade Equivalence	2.46	.0162

Transfer and remedial students differences were significant both before and after the course, i.e., .0065 vocabulary, 0019 comprehension, .0017 total, and .0004 grade equivalence. After the course the differences are not as significant as before , i.e., .0145 in vocabulary, .1619 in comprehension, .026 total score, and .0162 in grade equivalence.

ENGLISH AND SOCIAL SCIENCES

Findings of the English courses, remedial and non-transfer, are similar to those

found in the summer of 1982 in a study dealing with the social sciences. While there are limitations in the analysis of the data, it should be poinetd out that the scores are similar although the social sciences courses did not differentiate between remedial and transfer. It may be argued that the social sciences should be categorized as transfer and compared with the transfer course for a better picture; however, due to the lack of division in the social sciences, it is not possible to abandon the whole analysis. The comparison of the scores with the English transfer course will be made as one part of the analysis rather than the sole analysis.

Table 13
English and Social Sciences Students
Group

	Means		Standard Deviation		Correlations	
	s.s.	Engl	s.s.	Engl	s.s.	Engl
Vocabulary	38	38.7	19.1	18.5	.40*	.70*
Comprehension	39.5	40.7	12.0	12.7	.40*	.68*
Total Score	77.5	79.3	28.8	28.3	.45*	.82*
Grade	2.7	2.9	1.07	.84		

* .01 level of significance

Table 13 gives the means and standard deviations of English and social sciences students as well as the correlations. Both statistics refer to end of the course findings. The total score of the group differed only by 2.2 points, i.e., English had 79.3 and the social sciences 77.5; vocabulary 38 and 38.7 in social sciences, comprehension 39.5 and 40.7 in the social sciences. The groups were also similar in all respects, except the grade in which the social sciences had a larger standard deviation than the English, i.e., 1.07 versus .84. Standard deviations in English was 18.5 in vocabulary (19.1 social sciences), and 12.7 in comprehension (12 in social sciences). Correlations were considerable larger in the English grades than in the social sciences, i.e., English comprehension had .68 (social sciences .40), vocabulary .70 (social sciences .40), and total English score .82, social sciences .45. All correlations were at the .01 level of significance.

MALES AND FEMALES

Male group scores were less in English than the social sciences but they provided correlations at .01 level of significance while there were no

correlations in the social sciences research. Vocabulary in English was 40.1 (45.1 social sciences), comprehension 40, (40.8 social sciences), and the total score 80 (85.8 social sciences). Correlations were significant at the .01 level in vocabulary, .44; comprehension .65; and total score of .55. The correlations found in the social sciences were not larger than .25 and were not significant at the .05 or .01 level. Table 14 shows the statistics of the Male Group.

Table 14
Male Group: English and Social Sciences

	Means		Standard Deviations		Correlations	
	s.s.	Engl	s.s.	Engl	s.s.	Engl
Vocabulary	45.1	40.1	18.5	19.1	.20	.44*
Comprehension	40.8	40.0	18.5	11.1	.24	.6 *
Total Score	85.8	80.0	28.4	28.6	.23	.55*
Grade	2.75	3.02	1.08	.83		

* .01 level of significance

The female group obtained larger scores in English than in the social sciences and produced the same correlation in the total score, dropped in comprehension and increased in vocabulary as indicated in Table 15.

Table 15
Female English and Social Sciences

	Means		Standard Deviations		Correlations	
	s.s.	Eng	s.s.	Engl	s.s.	English
Vocabulary	36.1	37.6	18.4	18.1	.55*	.61*
Comprehension	40.1	41.3	11.4	13.7	.58*	.44*
Total Score	76.2	78.9	27.7	28.2	.61*	.61*
Grade	2.77	2.85	1.1	.86		

* .01 level of significance

Vocabulary in English was 37.1 (36.1 social sciences), comprehension 41.3 (40.1 social sciences), and the total score 78.9 (76.2 social sciences). Correlations in vocabulary were .61 in English .55 social sciences; comprehension .58 in the social sciences and .44 in English, and .61 in the total score in English and social sciences.

HISPANICS

Hispanics obtained 17.4 more points in the total score in English than in the social sciences. Further, the Hispanic group in English obtained a dramatic increase in the correlations between grades and the reading scores. The groups for the most part were similar as indicated by their standard deviations , i.e., Hispanics had a standard deviation in vocabulary in the social sciences of 16.7 and 16.8 in English; comprehension 12.6, and 10.9; total score 27.3, and 31.5 respectively. While there were no sizable correlations in the social sciences for the Hispanic group, in the English courses the Hispanic group obtained correlations that were significant at the .01 level, i.e., .70 vocabulary. .65 comprehension, and .73 in the total score. Table 16 contains the statistics for the Hispanic group.

Table 16
Hispanic Group

	S.Sc	English	Standard Dev S.Sc	Standard Dev English	Grade Corr S.Sc	Grade Corr English
Vocabulary	25.9	35.3	16.7	16.8	-.004	.70*
Comprehension	33.3	41.3	12.6	10.9	.19	.65*
Total Score	59.2	76.6	27.3	31.5	.08	.73*
Grade	2.19	2.62	.75	.71		

* .01 level of significance

TRANSFER SCORES IN THE SOCIAL SCIENCES AND ENGLISH

The comparison of the scores obtained by the social sciences students may be compared with the college transfer English course since both groups may be similar in ability and goals. Table 17 shows that the English students outperformed the social sciences group in every statistic, i.e., vocabulary was almost 12 more points than the social sciences, comprehension more than 3.6 points, and the total by 8.5. The standard deviations indicate that the groups were homogeneous. English correlations were .11 larger in English both in

comprehension and vocabulary, and .12 in the total score.

Table 17
Social Sciences and English Transfer Students

	s.s.	Engl	s.s.	Engl	s.s.	Engl
Vocabulary	38.0	44.9	19.1	18.6	.40*	.51*
Comprehension	39.5	43.1	12	12.4	.40*	.51*
Total Score	77.5	88.0	28.8	27.2	.45*	.57*
Grade	2.7	3.1	1.07	.8		

* .01 level of significance

SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

Description of Study

Students who enrolled in English courses, i.e., college level transfer and the non-college level preparatory course to the transfer English course, at a California Community College during the summer of 1983 were given the Nelson Denny test at the beginning and the end of the summer session. Data was analyzed according to gender, i.e., males and females; ethnicity, i.e., Hispanics and Non-Hispanics, level of writing skills, and the method of placement used to enroll in the course. Statistical tools were used to determine the mean, standard deviation, correlation with academic achievement as measured by the grade earned in the course, and the F ratio . Significance levels at the .01 and .05 levels were used as the measuring device for determining if the findings were statistically significant. Writing competency was determined by a writing sample read independently by two English instructors who placed students in one of three English composition courses according to specific course criteria.

The review of the literature produced research findings that dealt mostly with the outcome of the "open door" philosophy of the Community College. Open access in the California Community Colleges implies that students can start their educational goals at whatever level of skills they have when they enter and that the college provides those skills that meet the needs of the students. It is not surprising then that the literature reviewed dealt mostly with factors dealing with the reality of the Community College as it implemented this philosophy of open access. It was beyond the scope of the study to analyzed how Community Colleges implement the open access philosophy or what barriers currently exist for non-traditional students.

Research of the "open door" Community College as it relates to remedial students has centered in gains/losses of reading, writing, and mathematics scores; attitude towards learning after taking remedial courses, withdrawal rates, grade point average, curriculum chosen by remedial students, graduation rates, transfer rates, relationships of remedial programs with academic success; success being defined in various ways, differences between remedial and non-remedial students, use of microcomputers in remedial programs, day and evening student characteristics , whether students who are placed in remedial courses actually enroll in those courses, measurement of student persistence and predictions of course grades, characteristics of students who take a standardized achievement tests and then enroll at a Community College, academic abilities of students entering the Community College, differences between reading programs that emphasized general skills and those that are tailored to specific textbooks, and differences between G.E.D. students and high school graduates. Further, summer session students are unique in motivation and in

their educational goals; therefore, the group is highly selective and does not represent the "typical" fall or spring semester student. This is not to imply that the Community College in California has a "typical" student.

Group

The group showed .8 grade level gains in reading equivalence. The gains were significant at the .04 in vocabulary, .01 in comprehension and the total score, and .02 in grade level equivalence. Correlations were obtained at the .01 level of significance in vocabulary, comprehension, the total score, and the grade equivalence. As it would be expected, the correlations were considerably higher after the course.

Gender

There were 40 females and 30 males in the study. Males had a higher level of equivalence at the beginning of the course, but by the end of the course, both groups had achieved the same grade level equivalence. The level of significance of the male changes from beginning to the end of the course were at the more than .10 level of significance in all scoree; hence, the gains made can be attributed to chance. Female level of significance were more varied and may be attributed to real changes in comprehension (.03), total score (.05), and grade equivalence (.07). The level of significance for vocabulary was considerable larger, i.e., .20. Males and females differences before and after the course were not significant at the .01 or .05 level of significance. Correlations between grade and reading scores were significant for males and females at the .01 level with the exception of vocabulary, which was significant at the .05 level.

Ethnicity

Hispanic students began the English courses at the 11.8 level and ended at the 12.7 level. Gains made in vocabulary was significant at the .05 level while the others were not significant at either the .01 or .05 level. Correlations between grades and reading scores were higher for Hispanics than the non-Hispanic, both before and after the course. All correlations were significant at the .01 level of significance and ranged from a low of .58 in grade equivalence to a high of .72 in comprehension.

Method of Placement

Students who were placed in the classes according the Placement Examination of the college obtained higher grades than the group that took the previous course or qualified under "other" methods. The group who took the English Placement Examination also was homogeneous in grades earned. Interesting to note also,

was that the grade equivalence was higher for the group that was placed by the English Examination than the one who took the previous course. Correlations for the group that took the English Placement Examination were at the .01 level of significance in vocabulary, comprehension, total score, and grade equivalence. Correlations for those who took the previous course and for those who qualified under "other" were not significant at the .01 or .05 level of significance.

Transfer Students

Transfer students began with a high score and ended with a high score in vocabulary and in comprehension. Remedial students, on the other hand, began low in comparison with the transfer group and ended below the score that the transfer had begun. Comprehension gains were largest in the remedial group. Transfer student gains were not significant at the .01 or .05 level; however, the remedial group had significance levels at the .05 in vocabulary, comprehension, and in the total score. Both groups were similar in their deviations from the average grade, i.e., standard deviations were .8 for transfer and .85 for the remedial. Transfer students obtained higher grades than the remedial students. Although there are some limitations in using the grade equivalence statistic due to the lack of a representative sample in the development of the norms by the publisher, it should be noted that the remedial group "grew" 1.1 grade equivalence in contrast to .5 in the transfer group. Reading scores of transfer students had correlations at the .01 level of significance both at the beginning and end of the course with the exception of comprehension at the beginning of the course. Further, the transfer correlations grew more than the remedial group but the level of significance was not at the .05 or .01 level. Remedial students, on the other hand, although the changes between prior and after were statistically significant, declined in vocabulary, comprehension, and the total score. The remedial group only grew .1 in the total score. Transfer and remedial students differences were significant both before and after the course, i.e., .0065 vocabulary, 0019 comprehension, .0017 total, and .0004 grade equivalence. After the course the differences were not as significant as before , i.e., .0145 in vocabulary, .1619 in comprehension, .026 total score, and .0162 in grade equivalence.

Achievement

Findings indicate that the higher the grade, the higher the score. The analysis did not separate the college transfer and the remedial courses. "A" students begin at a high grade level equivalence and end high.. The "B" and "C" students begin lower than the"A" group and do not "catch up" with the "A" group. The "A" and "B" groups tended to become homogeneous after the completion of the course while the "C" group became more heterogeneous in reading scores.

English and Social Sciences

Findings of the English courses, remedial and non-transfer, are similar to those

found in the summer of 1982 in a study dealing with the social sciences. While there are limitations in the analysis of the data, it should be pointed out that the scores are similar although the social sciences courses did not differentiate between remedial and transfer.

Groups

English scores were larger than the social sciences in the total score, comprehension, and vocabulary. The total English score was greater by 2.2 points, vocabulary was greater .7 than the social sciences score, the English comprehension score was greater than the social sciences by 1.2 points. The groups were similar in all respects as indicated by their standard deviations, except the grade in which the social sciences group differed more than the English. The social sciences group differed slightly more than the English group in vocabulary, but the English group differed more than the social sciences in comprehension as indicated by the 12.7 standard deviation in comparison with 12 in social sciences. Correlations were considerable larger in the English grades than in the social sciences and occurred at the .01 level of significance.

Gender

Male group scores were less in English than the social sciences but they provided correlations at the .01 level of significance while there were no correlations in the social sciences scores. Correlations that were significant at the .01 level were found in vocabulary, comprehension, and total score. The correlations found in the social sciences were not larger than .25 and were not significant at the .05 or .01 level.

The female group obtained larger scores in English than in the social sciences and produced the same correlation in the total score, dropped in comprehension and increased in vocabulary correlations

Hispanics

Hispanics did considerably better in the English course than in the social sciences. The total score was 17.4 more points in English than in the social sciences. Further, the Hispanic group in English obtained a dramatic increase in the correlations between grades and the reading scores. The Hispanic groups for the most part were similar in vocabulary as indicated by the .1 standard deviation difference. Comprehension scores were more different in English while total scores were similar. While there were not sizable correlations in the social sciences for the Hispanic group, in the English courses the Hispanic group obtained large correlations that were significant at the .01 level of significance.

The comparison of the scores obtained by the social sciences students may be compared with the college transfer English course since both groups may be

homogeneous in ability and goals as indicated by the group's homogeneous standard deviation. English students outperformed the social sciences group in every statistic.

Discussion

It appears that students learn reading skills in their English composition classes. This is not surprising, since reading is of most importance in writing. It appears that students who complete courses in writing have gone through a period in which reading is a prerequisite as a preparation to the task of actually writing. Reading was related to academic achievement in the writing course; however, when the gorup is separated according to gender, differences are noted between the gender of the students and ethnicity.

Vocabulary differences between males and females and Hispanics show wider range both prior to and after the writing course; however, the comprehension scores are more similar indicating that the vocabulary that students bring to their writing courses increases during the English course while comprehension skills need more development. Since there may be more writing than reading, it is undertandable why the comprehension scores did not increase as much as the vocabulary scores.

The importance of reading for academic success is demonstrated by the high correlation that Hispanics obtained between vocabulary scores and grades earned in the writing course followed by females. Males appear to have the smallest correlation with grades; therefore, reading skills are of utmost importance for Hispanics. Females had the least correlation in comprehension scores and the grades earned followed by males with Hispanics having the largest correlations both prior and after the course. It appears that Hispanics regressed in comprehension scores. This may be explained by looking at the high vocabulary growth; hence, the group may be concentrating too much in vocabulary growth rather than comprehension. Further, comprehension skills appear to have been already in place for the females as evidenced by the low correlation with grade both prior and after the course.

It is not understood why students who were placed in the English courses with the results of the writing sample had higher scores both before and after the course than those students who took the previous course. Further research is needed to determine what variables are involved in the placement of students in English classes using the holistic approach in the assessment of a writing sample.

"A" students appear to bring a high level of proficiency to their college experience and keep it after the completion of the course. Further, the "B" and "C" group does not seem to "catch up" with the "A" group with the completion of the course. The initial gap between the group may be too high to bridge in one

course.

Transfer oriented students appear to bring a high level of reading skill than the remedial course students in vocabulary and comprehension and keep that relative position after the course is completed. Comprehension gains were made by the remedial group.

Reading scores of the social sciences courses compared with those of the English composition courses appear to be similar until a comparison is made between the three groups. Male and Hispanic vocabulary skills showed the most differences but females obtained similar scores both in English and social sciences. Comprehension skills were similar for males and females; however, Hispanics showed less reading skills in the social sciences than in the English group. Scores in the social sciences vocabulary were uniform in the three groups but comprehension showed diversity with males showing the most diversity within themselves.

Conclusions

English correlations with the grade earned in the course indicate the importance of reading for academic success. Hispanics are most affected in English, followed by males, and lastly, females. Social sciences relationships were significant only for females.

The belief that students learn to read by enrolling in courses in which there is reading does not seem to be true for some groups. Further, as prerequisites are established for courses, extreme caution should be exercised so that groups are not excluded from taking courses or placing students in skill courses that they do not need. As the Nelson Denny publishers suggest, scores should not be used in isolation for placement purposes, but they should be used in conjunction with other data.

Lack of correlations of reading scores with grades may point to cultural and sexual biases of the test itself. It may be possible that reading passages and vocabulary used in the Denny have an adverse impact on minorities. The norms developed for the test did not include California Community Colleges; therefore, the grade equivalence cannot be used with much confidence.

Finally, research is needed to ascertain what reading skills are being developed in the English and social sciences courses. A study with "typical" students would be of great value since the present study dealt with highly motivated students who already have an educational goal and attend the Community College to fulfill that specific goal.

NOTES

1. A Community College in Southern California has the prerequisite that students need to take the Nelson Denny Test prior to enrolling in social sciences courses.

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